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SECURITY INFORMATION

CENTRAL INTELLIGENCE AGENCY

BOARD OF NATIONAL ESTIMATES

84

25 October 1951

MEMORANDUM FOR THE INTELLIGENCE ADVISORY COMMITTEE

SUBJECT: NIE-33: Soviet Control of the European Satellites  
and Their Contribution to Soviet Power

1. The attached draft estimate has been approved by the Board of National Estimates pursuant to a consideration of it by the IAC representatives.

2. This estimate will be on the agenda of the next regularly scheduled meeting of the IAC.

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Executive Secretary

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NEXT REVIEW DATE: \_\_\_\_\_  
AUTH: HR 70-2  
DATE: 16 MAR 81 REVIEWER: \_\_\_\_\_

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TABLE OF CONTENTS

NIE-33

|   | Page |
|---|------|
| THE PROBLEM . . . . .                                     | 2    |
| CONCLUSIONS . . . . .                                     | 3    |
| DISCUSSION . . . . .                                      | 6    |
| I. CONTROL  |      |
| Degree of Control . . . . .                               | 6    |
| Instruments and Techniques . . . . .                      | 7    |
| Troublesome Issues and Forces . . . . .                   | 9    |
| II. SATELLITE CONTRIBUTIONS TO SOVIET STRENGTH: ECONOMIC  |      |
| The Long-Term Program . . . . .                           | 10   |
| The Current Plans . . . . .                               | 12   |
| Principal Economic Contributions . . . . .                | 14   |
| Limitations on Satellite Economic Capabilities . . . . .  | 17   |
| Comparison of the Satellites and Western Europe . . . . . | 19   |
| III. SATELLITE CONTRIBUTIONS TO SOVIET STRENGTH: MILITARY |      |
| Advanced Bases for the USSR . . . . .                     | 19   |
| Satellite Ground Forces . . . . .                         | 20   |
| Satellite Air Forces and Airfields . . . . .              | 23   |
| Satellite Naval Forces . . . . .                          | 25   |
| Summary . . . . .   | 26   |

\* \* \* \* \*

- APPENDIX A - Soviet Forces Stationed in the Satellites,  
                    September 1951
- APPENDIX B - Production of Selected Commodities by the Satellites  
                    and the USSR, 1950
- APPENDIX C - The Development of Satellite Armies,  
                    1951-1953
- APPENDIX D - Satellite Air Forces, September 1951

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SECURITY INFORMATION

CENTRAL INTELLIGENCE AGENCY

26 October 1951

SUBJECT: NIE-33: SOVIET CONTROL OF THE EUROPEAN SATELLITES  
AND THEIR ECONOMIC AND MILITARY CONTRIBUTIONS  
TO SOVIET POWER, THROUGH MID-1953

THE PROBLEM

To estimate the effectiveness of Soviet control over the  
European Satellites and their economic and military contri-  
butions to Soviet strength, through mid-1953.

ASSUMPTION

That there will not be general war within the period of  
the estimate.

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### CONCLUSIONS

1. Soviet control over the Satellites is virtually complete, assuring for the period of this estimate the subservience and reliability of these states and continued economic and military benefit to the USSR.

2. A rapid collectivization of agriculture would almost certainly provoke strong resistance and adversely affect agricultural production in the Satellites for some time, but it would probably not shake Soviet control over the Satellites. However, rapid collectivization is unlikely to be undertaken within the period of this estimate.

3. The Satellite area is being industrialized and integrated into the Soviet economic system. The Satellites supply to the USSR large, and in some cases critical quantities of raw materials and industrial goods, notably uranium ores and concentrates, petroleum products, industrial chemicals, and engineering equipment. The productive capabilities of the Satellites constitute an important addition to Soviet economic capabilities and war potential. This increment will become even more significant as production increases and as more complete integration with the USSR is attained.

4. Satellite exports to the West have provided the Soviet-Satellite complex with channels for acquiring critical materials

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and equipment difficult and in some cases even impossible for the USSR to obtain directly. The present dependence of some Western states upon the Satellites for coal and grains and the reluctance of some states to forego the advantages of East-West trade prevent Western export restrictions from eliminating this advantage entirely.

5. The rising curve of Satellite industrial production began to flatten out in the first half of 1951. Increases in industrial production through 1953 will be limited by deficiencies in skilled labor and competent management, in raw materials, and in capital equipment.

6. The industrial capacity and general economic strength of the Satellites will remain low in comparison with those of Western Europe. However, the Satellites almost certainly will continue to devote a larger proportion of their productive capabilities and economic resources to industrial development and to the production of military equipment.

7. The Satellite ground forces are now estimated to number 947,000 men, organized into 66 divisions, of which 4 are armored and 6 mechanized. The forces have grown in size 49 percent from January 1950 through September 1951. We believe they will increase by mid-1953 to a strength of 1,475,000 men, organized into 116 divisions.

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8. The Satellite Air Forces have only limited defensive and ground attack capabilities. The reorganization of these forces now in progress, does not appear to have a high priority and is unlikely to be completed within the period of this estimate. However, a program reflecting a greater sense of urgency could produce effective air forces by mid-1953.

9. The Satellite Naval Forces, now of negligible significance, are being developed gradually and by mid-1953 will probably have the capability of providing appreciable assistance to the Soviet Navy in coastal operations.

10. Deficiencies in equipment, and the unreliability and poor morale of the Satellite armed forces indicated that their estimated size is not an accurate gauge of their power. However, they are already a significant factor in the European balance of forces. If they advance along the lines projected by the Kremlin, they will form a substantial addition to Soviet military strength in Europe and will offset, at least in part, the growth of Western strength in Europe.

11. Control of the Satellites has pushed the frontiers of the USSR roughly 500 miles west into Central Europe and has established for the USSR a buffer zone now garrisoned by the Satellite forces and an estimated 455,500 Soviet troops. This

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area provides advanced air bases, space for a forward air defense system, and naval bases. Soviet control of the area constitutes a poised threat to all of Western Europe, the Scandinavian Peninsula, and the Near East.

#### DISCUSSION

##### I. CONTROL

###### Degree of Control

12. Soviet control over the Satellites is virtually complete. It ensures the subservience and reliability of the governments and continued Soviet economic and military benefit from the area.

13. The Kremlin has maintained and will enlarge its authority over the Satellites through political, economic, and ideological means and through the skillful and experienced use of police and military power.

- a. The Kremlin has already decapitated and pulverized the old political parties and opposition groups, but the discontent now current in each Satellite will persist and perhaps increase.

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- b. The elimination of all but trusted Stalinists from the Communist hierarchies has been almost completed. "Cleansing" of Communist regimes, however, is a perpetual process, and there will continue to be purges within the Communist parties, governments, armies, and police forces of each of the Satellites.
- c. The subservience of the Satellites will be guaranteed by present Soviet authority, the power of Soviet advisers and missions in the Satellite governments, Soviet economic and military controls, the rigorous training and education programs, and calculated use of terror to create the sense of isolation, hopelessness, and physical and moral fear.

Instruments and Techniques

14. Nationalization and direct operation by the governments of the vital industrial and commercial sectors of the Satellite economies simplify Soviet control. Soviet authority over these economies is exercised in addition through reparations arrangements, trade and financial agreements to implement specific production schedules, the use of Soviet advisers in key positions throughout the economy, joint companies (notably in Rumania and

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Hungary), and the Council of Economic Mutual Assistance (CEMA), which functions both as an effective control instrument and as a facade for "joint planning."

15. Direct controls are exercised through the Communist parties. In addition, the Kremlin uses the Cominform to further cooperation among the Satellites and to help establish a uniform political and propaganda line. Although the Kremlin permits and encourages programs of cultural, economic, and technical collaboration among the Satellites, it appears determined to bind the Satellites individually to the USSR, rather than to unify them.

16. The secret police and security forces in each of the Satellites are large, carefully selected, and well trained. They are infiltrated and often dominated by experienced Soviet personnel.

17. Large Soviet military missions are supervising the reorganization of the Satellite armed forces, which are adopting standard Soviet methods, doctrine, organization, and equipment. Soviet commanders, advisers, and technicians are located in key positions in the military forces and defense ministries, in effect adding the Satellite forces to the Soviet. The purging of the officer corps has been almost completed, political indoctrination often occupies as much time and effort as military training,

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and the Satellite forces will remain dependent upon the USSR for all of their aircraft and for most of their tanks and heavy artillery.

18. The final lever of Soviet control consists of the Soviet forces stationed within these countries or along their borders. The forces stationed within the Satellites and in the Soviet Zone of Austria were estimated in September 1951, to consist of 455,500 from the Soviet Army (including military missions), 26,500 security troops, and 2,600 Soviet-manned aircraft.\*

#### Troublesome Issues and Forces

19. A number of issues and forces remain which will constitute irritations for the Kremlin in Eastern Europe, but which will not jeopardize Soviet authority. Six of these -- nationalism, the traditional hatred of Russia (except in Czechoslovakia and Bulgaria), a western cultural tradition (especially in Poland, Czechoslovakia, and Hungary), religion, territorial conflicts among the Satellites, and ethnic or religious minorities within the Satellites -- derive from the history of this area. Three -- the imposition of the Soviet system, Soviet economic exploitation of the area, and the current decline of the standard of living -- are direct products of the recent changes. The Kremlin in the past has shown such skill and resolution in coping with the unrest resulting from these issues and in discovering and obliterating

\* For further detail concerning Soviet forces stationed within the Satellites, see Appendix A.

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hostile forces that, in time of peace, none of these issues is expected to develop into more than a nuisance or an impediment upon the Communist program within the period of this estimate.

20. A rapid collectivization of agriculture would almost certainly provoke strong resistance and adversely affect agricultural production in the Satellites for some time, but it would probably not shake Soviet control over the Satellites. Although collectivization is fundamental to Stalinist philosophy, it has been proceeding very slowly in the Satellites and the rate is not likely to be increased sharply during the period of this estimate.

## II. SATELLITE CONTRIBUTIONS TO SOVIET STRENGTH: ECONOMIC

### The Long-Term Program

21. During the first years after the conclusion of hostilities, the USSR ruthlessly extracted from Eastern Europe the immediately obtainable economic benefits. The means used included outright requisition of materials and equipment and the imposition of bilateral trade pacts on terms overwhelmingly advantageous to the USSR.

22. A revised program began to take form late in 1948, providing for the carefully planned industrialization of the Satellite countries and their integration into the Soviet economic system to achieve the following results:

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- a. Control of these countries and of their economic development by the USSR and the creation of Soviet-type socialized economies.
- b. Maximum Satellite contribution of their present resources and production to Soviet economic and military strength and the reorganization of the Satellite economies so that they will become a permanent, constantly more valuable addition to Soviet strength.
- c. Economic dependence of the Satellites upon the USSR and their independence from the West, depriving the West of the economic advantages it formerly enjoyed in Eastern Europe.
- d. Development of Satellite strength so that the Satellites, or a group of them, may have the capability of conducting Soviet-sponsored localized war and so that the Satellites may make their maximum contribution to Soviet strength in a general war.

23. This long-range program has been designed in such a way that the industrial base and immediate military capabilities of

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the area should advance simultaneously. While, however, the Satellites are in a progressively advancing state of war-readiness, there is no indication that the program envisages the outbreak of war at any particular time, or that the long-term program is being sacrificed to achieve greater immediate war-readiness.

24. The reorganization of the economies of the Satellites is directed by the Kremlin through such agencies as the Council of Economic Mutual Assistance, which provides machinery for integrating each national economy with that of the USSR, for allocating raw materials, capital equipment, and foreign exchange, and for arranging specialization and division of labor. The Satellites import from the USSR some of the raw materials and capital goods necessary for industrialization, but the industries developed are those which can contribute most to the economic potential of the USSR. The Satellites have thus been forced into a pattern of production and trade subservient to the interests of the USSR.

#### The Current Plans

25. A high percentage of Satellite national income, unprecedented for this area, is being devoted to investment, a large proportion of which, in turn, is scheduled for the expansion of industrial capacity, particularly in heavy industry.

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For example, forty percent of Czechoslovakia's capital investment for 1949-1953 is scheduled for industry, and the planned Eastern German annual percentage rises from 51 to 55 from 1951 through 1955.

26. While it is likely that few of the production goals set by the plans will be achieved, these goals are significant in that they indicate the revolutionary character of the changes planned and the consequent increasing size of the contributions the Kremlin expects each to make to Soviet strength. For example, the present plan provides for an increase of industrial production in Poland in 1955 of 58 percent over that of 1949. Sixty percent of the national income of Poland is to be derived from industry in 1955, compared with 49 percent in 1949. In Hungary, the share of the national income derived from industry is scheduled to rise from 51 percent in 1949 to 64 percent in 1954. Industrial production in 1953 in Czechoslovakia is to be 50 percent greater than that of 1949, and heavy industrial production in 1955 is planned to be 231 percent greater than that of 1948. Present plans schedule Eastern Germany's industrial production in 1955 as 190 percent of that of 1950.

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Principal Economic Contributions

27. The principal economic contributions of the Satellites to the USSR consist of the increasing flow of certain raw materials and of fabricated products.\* The following are the most important:

- a. The Satellites in 1950 are estimated to have supplied approximately 67 percent of the Soviet Orbit's uranium ores and concentrates, with Eastern Germany accounting for 45 percent, Czechoslovakia 15 percent, Bulgaria 4 percent, and Poland 3 percent.
- b. Eastern Germany, Czechoslovakia, Hungary, and Poland export to the USSR approximately 50 percent of the total annual production of their engineering industries, or an amount equal to about 25 percent of Soviet annual production. Some items, notably electronic equipment, electric motors, diesel engines, industrial instruments, and machine tools, constitute a particularly important contribution to Soviet industrial and military expansion because of the highly skilled labor involved in their manufacture. In addition, Eastern

\* The table in Appendix B indicates the production in 1950 of various selected raw materials and manufactured equipment by the Satellites, compared with the production of those materials and products by the USSR.

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German and Czechoslovakian exports of industrial equipment to other Satellites increase the capacity of those countries for supplying the USSR.

- c. Over 50 percent of the petroleum products produced from crude and synthetics by the Satellites (including the Soviet Zone of Austria) is furnished the USSR, primarily for stockpiling and the supply of Soviet forces within the Satellite area. In 1950, about 4.1 million tons of petroleum products refined from crude and synthetics were made available to the USSR by the Satellites, compared with Soviet production of 34 million tons. A larger amount is being provided in 1951.
- d. The chemical industries in the Satellite area make an important direct contribution to the Soviet war potential, with Eastern Germany and the Polish coke-chemical industry providing the largest shares. The chemicals of which Satellite production is most significant in relation to Soviet output include synthetic ammonia (71 percent of the USSR's production); nitric acid (32 percent); and sulphuric acid (34 percent). The Satellites export to the

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USSR substantial quantities of the chemicals used directly in the Soviet manufacture of explosives.

28. The scientific and technical personnel of Eastern Germany and Czechoslovakia, and to a lesser extent of Poland and Hungary, constitute a major addition to Soviet capabilities. Although relatively few of these scientists and technicians have been moved to the USSR, the products of their skill are of great value to the Soviet economy.

29. The Satellites serve as media for obtaining from the West and from the Far East materials and equipment which are important to the Soviet war potential and which the USSR finds difficult and in some cases impossible to obtain directly. These materials and this equipment, through trade agreements concluded by the Satellites with the West, are obtained by the USSR for its own industries and for Satellite industries working for the USSR. This asset is diminishing due to Western controls over the export of strategic commodities. However, the present dependence of some Western European states upon the Satellites for coal and grains and the reluctance of some states to forego the advantages of East-West trade prevent Western export restrictions from eliminating this advantage entirely.

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Limitations on Satellite Economic Capabilities

30. The industrialization programs in effect in the Satellites since 1948 or earlier encountered difficulties in 1951 primarily because of the inability of the Satellites to obtain the necessary supplies of materials and equipment. The rising curve of industrial production has already begun to flatten out, and future planned increases are unlikely to be achieved because of shortages. It is almost certain that none of the Satellites will fulfill the 1951 production and export schedules, and full success in the plans is virtually impossible.

31. Current Satellite deficiencies constitute an important limiting factor on Soviet plans for the Satellites.

- a. The planned expansion of industry far exceeds the supply of available skilled labor and management and estimated ability to train skilled workers, technicians, and managers.
- b. The Satellites lack adequate supplies of many of the raw materials necessary for the development of a modern industrial economy. High-grade iron ore, copper, lead, zinc, nickel, chromium, molybdenum, tungsten, rubber, sulphur and pyrites,

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and tin are extremely limited in supply. It is unlikely that coal production could be increased sufficiently to support the expanded industrial economy of the Orbit and at the same time to continue exports to the West at the present level.

- c. Deficiencies in capital equipment also hamper the program. For example, the presently planned hydroelectric projects require equipment which neither the USSR nor the Satellites themselves can provide in sufficient quantity and which cannot now be obtained from the West. Petroleum exploration and drilling equipment, complex automatic machine tools, precision instruments, and machinery for manufacturing anti-friction bearings are all vital for fulfillment of the Soviet program for expanded production, and all are now difficult to obtain.
- d. The supply of agricultural products available for financing the purchase of machinery abroad is unlikely to be increased significantly beyond its present level.

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- e. The critical materials and equipment needed for industrialization of the Satellites are also now in short supply within the USSR itself.

Comparison of the Satellites and Western Europe

32. The productive capabilities and economic resources of Satellite Europe are low in comparison with those of Western Europe. The total of the national incomes of the Western European states (including West Germany and the UK) is at least three times as great as that of the Satellites, and the estimated rate of growth of the Satellite economy through mid-1953 is about the same as the estimated rate of growth of the Western European economy. The Satellites will almost certainly continue to devote a higher proportion of their national incomes to military production.

III. SATELLITE CONTRIBUTIONS TO SOVIET STRENGTH: MILITARY

Advanced Bases for the USSR

33. Control of the Satellites has pushed the frontiers of the USSR roughly 500 miles west into Central Europe and has established for the USSR a buffer zone now garrisoned by an estimated 455,500 Soviet troops, organized into 30 divisions, and 947,000 Satellite troops.\* This area provides advanced air bases, space

\* Allied divisions are approximately 80 percent larger than Soviet and Satellite divisions, both in T/O and in present numerical strength.

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for a forward air defense system, and naval bases. Soviet control of the area constitutes a poised threat to all of Western Europe, the Scandinavian Peninsula, and the Near East.

34. The bulk of the Soviet forces in the Satellite area is concentrated in Eastern Germany and constitutes the spearhead of Soviet military strength. Soviet-manned aircraft based in the Satellites now total 2,600, of which 990 are jet fighters, 400 conventional fighters, 540 light bombers, 460 attack bombers, 110 transports, and 100 reconnaissance planes. The largest concentration of these craft is in Eastern Germany, which has 1,330 while Hungary and the Soviet Zone of Austria together have 570, Poland 480, and Rumania 220. There has been no significant increase in the size of these forces during the past two years, but jet fighters are gradually replacing conventional ones and jet light bombers have begun to appear.

#### Satellite Ground Forces

35. The ground forces of the Satellites are now estimated at 947,000 men, and the internal security forces constitute an additional 199,500 men.\* These ground forces are now organized into 66 divisions, of which 4 are armored and 6 mechanized. These forces

\* For further details concerning the development of Satellite armies, 1951-1953, see Appendix C.

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increased in size approximately 49 percent from January 1950 through September 1951. They are growing in strength and quality at an accelerated rate, and it is believed that they will increase an additional 55 percent in size by mid-1953. At that date, they will total an estimated 1,475,000, or 116 divisions, of which 11 will be armored and 18 mechanized.

36. The Kremlin is reorganizing the Satellite ground forces so that they will conform to the Soviet pattern. Great differences still exist among the Satellite forces in training, equipment, morale, and general capabilities. The Bulgarian army is apparently the most loyal and formidable, although even it is not yet a completely reliable Soviet instrument. Its 13 divisions are almost fully equipped with Soviet materiel, reserve stockpiles are available, and morale is good. There are approximately 300,000 trained reserves, of whom about 130,000 are sufficiently trained for immediate combat.

37. No other Satellite force will attain the present capabilities of the Bulgarian army before the end of 1952. The Rumanian and Hungarian ground forces most closely approach the Bulgarian standard, but even these armies lack standardized equipment and training and are not considered completely reliable. Only 20 percent of Rumanian equipment, for example, is of Soviet manufacture.

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The ground forces of Poland, Czechoslovakia, and Eastern Germany are much less advanced and reliable than the Balkan armies, and the USSR could not now rely upon them in a general war except for subsidiary duties.

38. Within the period of this estimate, the Kremlin is likely to be uncertain of the loyal support of the Polish, Czechoslovakian, and Eastern German ground forces. While the ground forces of the other Satellites are now more reliable, the loyalty of even these armies may be severely shaken if the present disparity in military power of the West and the Orbit is substantially reduced or if the USSR should suffer reverses in a general war.

39. The Satellite forces are not now fully coordinated. However, the command structures and the Soviet role are such that coordination can almost certainly be achieved within the period of this estimate.

40. The Kremlin has inaugurated a program for standardizing the equipment of the Satellite ground forces. The Satellites are now manufacturing for their own use light-armored and non-combat vehicles, light artillery, small arms, ammunition, and parts. They are dependent upon the USSR for most of their tanks, self-propelled guns, and heavy artillery, and for some of their light artillery and small arms.

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41. As Appendix C indicates, trained reserves of the Satellite ground forces amount to approximately 3,000,000 men. This figure is deceptive, however, because:

- a. Few of these men have had recent training or have used Soviet equipment, which will become standard in all of these armies, and few have been subject to the degree of indoctrination sought by the Kremlin in the armed forces.
- b. The industrialization and militarization programs are causing increasing manpower dislocations, especially in the Satellites most advanced industrially.
- c. There is little equipment available for reserves, except in Bulgaria and except for the equipment and stockpiles of Soviet forces now stationed in Eastern Europe. Even the present Bulgarian army lacks adequate signal and engineer equipment.

Satellite Air Forces and Airfields

42. The mission of the Satellite Air Forces is primarily defensive. These air forces possess approximately 2,450 aircraft,

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and there are probably only 3,000 trained pilots available.\*

The Kremlin is now engaged in an increasingly rapid development of these forces, concentrating at first upon Poland and Hungary. Equipment and aircraft are now practically all of World War II design and construction, but jet fighters are appearing in increasing numbers and intensive Soviet training of carefully selected Satellite pilots is assuring Soviet control, doctrines, techniques, and tactics. The Czechoslovakian and Rumanian air forces are now being completely reorganized and re-built, but these forces will probably not be reliable and efficient within the period of this estimate.

43. An extensive program of air field improvement and construction is being carried out in all of the Satellites except Albania. There are now 323 airfields in the Satellite area; 65 of these have runways capable of sustained heavy and medium-bomber operations. The emphasis is upon Eastern Germany, where 7 fields can now support sustained, and 13 limited, operations by heavy bombers, medium bombers, and jet fighters, and where 21 other fields are being improved. The Eastern German network is the best equipped in the Satellites and provides the most extensive and up-to-date facilities for night-flying and all-

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\* For further details concerning the Satellite Air Forces, see Appendix D.

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weather operations. This network and the Hungarian network already surpass present needs for the aircraft types currently based in those countries.

44. The Soviet forces stationed in the Satellites are supplied with antiaircraft equipment, but intensive development for the Satellites of early warning radar networks, radar-controlled antiaircraft, and civil defense began only in the spring of 1951. Progress has been most notable in Poland, Rumania, and Hungary. Even now, the Satellites possess only small amounts of World War II radar equipment, and spotters are still employed to report aircraft movement. None of the Satellites has trained a modern and effective antiaircraft command.

#### Satellite Naval Forces

45. The capabilities of the Satellite navies are currently negligible, and the personnel of these navies is not yet considered completely reliable. Soviet control is being improved through the placing of Soviet naval officers in the command structures, the elimination of all whose loyalty is suspect, and intensive political indoctrination courses. Small numbers of Soviet ships, notably of mine and escort types, have been turned over to the Satellite navies. By mid-1953, the Satellite navies will probably

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be able to provide appreciable assistance to the Soviet navy in such fields as minesweeping, minelaying, escort, and coastal defense duties.

Summary

46. In summary, because of deficiencies in equipment, loyalty, and morale, the Satellite armed forces as such do not now possess the capabilities which their size would appear to indicate. However, they are already a significant factor in the European balance of forces. If they advance along the lines projected by the Kremlin, they will form a substantial addition to Soviet military strength in Europe and will offset, at least in part, the growth of Western strength.

- 25 -

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APPENDIX A

SOVIET FORCES STATIONED IN THE SATELLITES, SEPTEMBER, 1951<sup>1/</sup>

|                        | Army          |            | Security Troops | Soviet-Manned Aircraft |              |        |        |      |       |      |
|------------------------|---------------|------------|-----------------|------------------------|--------------|--------|--------|------|-------|------|
|                        | No. of Troops | Line Divs. |                 | Fighters Jet           | Light Bombs. | Attack | Trans. | Rec. | Total |      |
| Eastern Germany        | 304,000       | 22 2/3     | 20,000          | 660                    | 50           | 250    | 250    | 60   | 60    | 1330 |
| Poland                 | 55,000        | 2          | 2,000           | 110                    | 150          | 40     | 170    | 10   | 0     | 480  |
| Czechoslovakia         | 1,000         | 0          | 0               | 0                      | 0            | 0      | 0      | 0    | 0     | 0    |
| Hungary                | 30,000        | 2          | 1,500           | 3180                   | 100          | 250    | 0      | 10   | 30    | 570  |
| Soviet Zone of Austria | 33,000        | 2          | 2,500           | 0                      | 0            | 0      | 0      | 0    | 0     | 0    |
| Albania                | 500           | 0          | 0               | 0                      | 0            | 0      | 0      | 0    | 0     | 0    |
| Rumania                | 30,000        | 2          | 2,000           | 40                     | 100          | 0      | 40     | 30   | 10    | 220  |
| Bulgaria               | 2,000         | 0          | 1,000           | 0                      | 0            | 0      | 0      | 0    | 0     | 0    |
| TOTAL                  | 455,500       | 30         | 29,000          | 990                    | 400          | 540    | 460    | 110  | 100   | 2600 |

- 1/ These figures include all Soviet forces stationed in the Soviet Zone of Austria.
- 2/ These divisions are organized into four mechanized and two rifle armies. The latter two armies are composed of two corps each.
- 3/ The figures for the Soviet-manned aircraft stationed in Hungary include those stationed in the Soviet Zone of Austria.

## APPENDIX B

Production of Selected Commodities by the Satellites and the USSR  
1950

| <u>Commodity</u>         | <u>Production</u><br>(Million Metric Tons) |                      | <u>Satellite Production as Percentages of</u> |                                       |
|--------------------------|--|----------------------|---|---------------------------------------|
|                          | <u>Satellite</u>                           | <u>USSR</u>          | <u>USSR Production</u>                        | <u>USSR plus Satellite Production</u> |
| <u>Ferrous Metals</u>    |  |                      |   |                                       |
| Iron Ore                 | 3.500                                      | 42.000               | 8.3   | 7.7                                   |
| Pig Iron                 | 4.325                                      | 19.500               | 22.2  | 18.1                                  |
| Raw Steel                | 6.775                                      | 25.400               | 26.7  | 21.1                                  |
| Metallurgical Coke       | 5.470                                      | 25.500               | 21.0  | 17.7                                  |
| <u>Nonferrous Metals</u> |  |                      |   |                                       |
| Copper                   | 0.050                                      | 0.265                | 18.9  | 15.9                                  |
| Lead                     | 0.061                                      | 0.095                | 64.2  | 39.1                                  |
| Zinc                     | 0.107                                      | 0.105                | 102.0   | 50.5                                  |
| Antimony                 | 0.003                                      | 0.005                | 60.0  | 37.5                                  |
| Bauxite                  | 0.600                                      | 0.750                | 80.0  | 44.5                                  |
| Aluminum                 | 0.018                                      | 0.240                | 7.5   | 7.0                                   |
| <u>Coal</u>              |  |                      |   |                                       |
| Hard                     | 100.143                                    | 187.150              | 53.6  | 34.9                                  |
| Brown and Lignite        | 189.230                                    | 74.850               | 253.0   | 71.7                                  |
| <u>Petroleum</u>         |  |                      |   |                                       |
| Crude Oil                | 7.230 <sup>a/</sup>                        | 37.500               | 19.3  | 16.2                                  |
| Petroleum Products       | 6.300 <sup>b/</sup>                        | 32.630 <sup>b/</sup> | 19.3  | 16.2                                  |
| Synthetics <sup>c/</sup> | 1.400                                      | 1.530                | 91.5  | 47.8                                  |

<sup>a/</sup> Includes the Soviet Zone of Austria.<sup>b/</sup> From crude only.<sup>c/</sup> Includes products from shale and synthetics.

## APPENDIX B

Production of Selected Commodities by the Satellites and the USSR  
1950  
(Continued)

| <u>Commodity</u>             | <u>Production</u><br>(Million Metric Tons) |             | <u>Satellite Production as Percentage of</u> |                                       |
|------------------------------|--|-------------|--|---------------------------------------|
|                              | <u>Satellite</u>                           | <u>USSR</u> | <u>USSR Production</u>                       | <u>USSR plus Satellite Production</u> |
| <u>Chemicals</u>             |  |             |  |                                       |
| Ammonia (Synthetic)          | 0.386                                      | 0.534       | 71.0   | 42.0                                  |
| Nitric Acid (100%)           | 0.230                                      | 0.715       | 32.0   | 24.0                                  |
| Sulphuric Acid               | 0.949                                      | 2.800       | 34.0   | 25.0                                  |
| Toluol                       | 0.020                                      | 0.053       | 37.7   | 27.4                                  |
| Chlorine                     | 0.222                                      | 0.218       | 102.0  | 50.0                                  |
| Carbide                      | 0.794                                      | 0.250       | 318.0  | 76.0                                  |
| Synthetic Rubber             | 0.040                                      | 0.200       | 20.0   | 17.0                                  |
| <u>Uranium</u>               | N.A. g/                                    | N.A. g/     | 200.0  | 67.0                                  |
| <u>Artificial Abrasives</u>  | 0.017                                      | 0.030       | 57.0   | 36.0                                  |
| <u>Agricultural Products</u> |  |             |  |                                       |
| Grain                        | 36.100                                     | 82.000      | 44.0   | 30.5                                  |
| Meat                         | 2.107                                      | 3.386       | 62.0   | 39.0                                  |
| Sugar                        | 2.718                                      | 2.100       | 129.0  | 56.0                                  |

g/ Not available for this report.

## APPENDIX B

Production of Selected Commodities by the Satellites and the USSR  
1950  
(Continued)

| <u>Commodity</u>                     | <u>Production</u> | <u>USSR</u> | <u>Satellite Production as Percentage of</u> | <u>USSR plus Satellite Production</u> |
|--------------------------------------|-------------------|-------------|--|---------------------------------------|
| <u>Machinery Items e/</u>            | <u>Satellite</u>  |             | <u>USSR Production</u>                       |                                       |
| Anti-friction Bearings               | 9,500,000.0       | 60,000,000  | 16.0   | 13.00                                 |
| Tractors                             | 28,000.0          | 100,000     | 28.0   | 22.00                                 |
| Machine Tools                        | 31,000.0          | 74,000      | 42.0   | 30.00                                 |
| Locomotives                          | 2,100.0           | 2,720       | 80.0   | 43.00                                 |
| Freight Cars                         | 45,800.0          | 146,000     | 31.0   | 24.00                                 |
| Trucks                               | 12,000.0          | 428,000     | 3.0  | 2.73                                  |
| Passenger Cars                       | 34,000.0          | 65,000      | 52.0   | 34.00                                 |
| <u>Heavy Electrical Machinery e/</u> | 500.0             | 1,400       | 36.0   | 27.00                                 |
| <u>Electron Tubes e/</u>             | 15.0              | 29          | 52.0   | 34.00                                 |
| <u>Electric Lamps e/</u>             | 97.0              | 120         | 81.0   | 45.00                                 |
| <u>Electric Power e/</u>             | 42.3              | 85          | 49.7   | 33.20                                 |

e/ Quantities are calculated on the following basis: machinery items, units; heavy electrical machinery, thousand kilowatts; electron tubes and electric lamps, million units; electric power, billion kilowatt-hours.

f/ Planned production.

APPENDIX C

THE DEVELOPMENT OF SATELLITE ARMIES, 1951-1953

| September, 1951 |         |                             |           |       |       |       |                  |           |                             |
|-----------------|---------|-----------------------------|-----------|-------|-------|-------|------------------|-----------|-----------------------------|
| Country         | Total   | Percent of Total Population | Divisions |       |       |       | Trained Reserves | Total     | Percent of Total Population |
|                 |         |                             | Arm.      | Mech. | Rifle | Total |                  |           |                             |
| Eastern Germany | 52,000  | .3                          | 0         | 0     | 0     | 0     | 98,000           | 300,000   | 2.2                         |
| Poland          | 200,000 | .8                          | 0         | 4     | 12    | 16    | 820,000          | 250,000   | 1.0                         |
| Czechoslovakia  | 155,000 | 1.3                         | 0         | 0     | 11    | 11    | 865,000          | 240,000   | 1.9                         |
| Albania         | 45,000  | 3.7                         | 0         | 0     | 4     | 4     | 55,000           | 55,000    | 4.4                         |
| Hungary         | 100,000 | 1.05                        | 1         | 1     | 7     | 9     | 300,000          | 150,000   | 1.5                         |
| Rumania         | 230,000 | 1.4                         | 1         | 1     | 11    | 13    | 495,000          | 300,000   | 1.8                         |
| Bulgaria        | 165,000 | 2.0                         | 2         | 0     | 11    | 13    | 305,000          | 180,000   | 2.0                         |
| TOTAL           | 947,000 | 1.06                        | 4         | 6     | 56    | 66    | 2,938,000        | 1,475,000 | 1.6                         |
| Summer, 1953    |         |                             |           |       |       |       |                  |           |                             |
| Country         | Total   | Percent of Total Population | Divisions |       |       |       | Trained Reserves | Total     | Percent of Total Population |
|                 |         |                             | Arm.      | Mech. | Rifle | Total |                  |           |                             |
| Eastern Germany | 52,000  | .3                          | 0         | 0     | 0     | 0     | 98,000           | 300,000   | 2.2                         |
| Poland          | 200,000 | .8                          | 0         | 4     | 12    | 16    | 820,000          | 250,000   | 1.0                         |
| Czechoslovakia  | 155,000 | 1.3                         | 0         | 0     | 11    | 11    | 865,000          | 240,000   | 1.9                         |
| Albania         | 45,000  | 3.7                         | 0         | 0     | 4     | 4     | 55,000           | 55,000    | 4.4                         |
| Hungary         | 100,000 | 1.05                        | 1         | 1     | 7     | 9     | 300,000          | 150,000   | 1.5                         |
| Rumania         | 230,000 | 1.4                         | 1         | 1     | 11    | 13    | 495,000          | 300,000   | 1.8                         |
| Bulgaria        | 165,000 | 2.0                         | 2         | 0     | 11    | 13    | 305,000          | 180,000   | 2.0                         |
| TOTAL           | 947,000 | 1.06                        | 4         | 6     | 56    | 66    | 2,938,000        | 1,475,000 | 1.6                         |

## APPENDIX D

## SATELLITE AIR FORCES

September, 1951

| Country             | Fighters |                   |        | Bombers |        | Transports | Reconnais-<br>sance | Trainers &<br>Others | Total | Pilots | Total A.F.<br>Personnel |
|---------------------|----------|-------------------|--------|---------|--------|------------|---------------------|----------------------|-------|--------|-------------------------|
|                     | Jet      | Conven-<br>tional | Attack | Light   | Medium |            |                     |                      |       |        |                         |
| EASTERN<br>GERMANY  | 0        | 0                 | 0      | 0       | 0      | 0          | 0                   | 0                    | 0     | 0      | 0                       |
| POLAND*             | 41       | 182               | 160    | 71      | 0      | 14         | 26                  | 85                   | 579   | 950    | 11,000                  |
| CZECHOSLO-<br>VAKIA | 28       | 156               | 47     | 40      | 0      | 41         | 85                  | 342                  | 739   | 300    | 8,000                   |
| HUNGARY             |          | 145               | 108    | 0       | 0      | 16         | 0                   | 93                   | 362   | 760    | 7,000                   |
| ALBANIA             | 0        | 0                 | 0      | 0       | 0      | 0          | 0                   | 0                    | 0     | 0      | 0                       |
| RUMANIA             | 15       | 90                | 70     | 15      | 0      | 15         | 65                  | 78                   | 348   | ?      | 12,000                  |
| BULGARIA            | 10       | 100               | 120    | 145     | 0      | 38         | 10                  | 2                    | 425   | 390    | 8,000                   |
| TOTAL               | 94       | 673               | 505    | 271     |        | 124        | 186                 | 600                  | 2453  |        | 46,000                  |

\* These figures include those for the small Polish Naval Air Force